

## **REMARKS/ARGUMENTS**

### ***Amendments in General***

1. Claim 1 has been amended to include the limitations of the muzzle brake being configured to allow passage of projectiles through its central bore as well as the limitation of the elongated openings being configured to direct the passage of propellant gasses away from the first end of the muzzle brake. Claim 1 has also been amended to distinctly point out that a plurality of elongated openings are present in the present invention and that these openings are located nearest to the first end of the muzzle brake as compared to any other aperture within the muzzle brake. As will be discussed further in detail none of the patents cited by the Examiner include this feature, which is critical to the operation of the invention. Support for these amendments can be found in Figures 3, 4, 8, and 9 of the application as filed, as well as on page 8 paragraph 25 in the specification. These amendments add no new matter and entrance of these amendments is respectfully requested.
  
2. Claim 2 has been amended to specifically point out that the claimed invention contains at least four elongated openings. Support for this amendment is found in Figures 3 and 4, as well as in paragraph 25 on pages 8 and 9 in the specification. This paragraph explains that the elongated openings that are formed by the combination of overlapping the radial gas holes allow for radial dispersion of the gasses away from the person shooting the device. In order for the gasses to be dispersed radially, the openings must be positioned radially around the surface of the device. The elongated nature of the openings allow the gasses to exit the device and to proceed away from the shooter. This is significantly different from the prior art embodiments where the first openings are not elongated. In these prior art embodiments, the shortened configuration of

the first openings cause the gasses that propel the projectile through the firearm to reflect off of the sides of a muzzle brake and to be reflected back toward the shooter. This description, in conjunction with Figures 3 and 4, illustrate that at least four elongated openings exist in the present invention. These amendments do not add any new material to the disclosure of the invention and acceptance of these changes is respectfully requested.

3. Claims 9 and 10 have been amended to conform with the language of the preceeding claims from which they depend. These amendments add no new material to the disclosure and allowance and acceptance of these changes is respectfully requested.

4. Claim 13 has been amended to include the limitations that were made to claims 1 and 2. As previously discussed, these changes add no new matter to the application and acceptance of these changes is respectfully requested.

#### ***Claim Rejections - 35 USC §102***

5. The Examiner rejected claims 1, 2, 3, and 13 under §102(b) as being anticipated by U.S. Patent No. D285,238 to Cellini. The Examiner maintains that the Cellini patent discloses a muzzle brake comprising a cylindrical body having a longitudinal dimension greater than a lateral dimension, and a plurality of gas holes linearly disposed along a longitudinal axis of the body.

7. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d. 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The

identical invention must be shown in as complete detail as contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 828 F.2d 1226,1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). MPEP § 2131.

8. The Cellini device does not anticipate claims 1, 2, 3, and 13 of the present invention.

9. Claim 1 of the present invention claims a muzzle brake having a body having a first end adapted to connect with a muzzle, a central bore configured to allow passage of a projectile from the first end to a second end of the projectile, and a plurality of longitudinally elongated openings positioned nearest to said first end as compared to any other aperture. These longitudinally elongated openings are configured to allow passage of gasses propelling a projectile away from the first end of the muzzle brake.

10. Cellini does not include the limitation of the elongated openings being closest to the first end of the muzzle brake as compared to any other aperture. In Cellini, the first apertures in the muzzle brake are generally circular holes, having dimensions that are generally equal in both a lateral and longitudinal direction. This is not the feature claimed in the present invention. The present invention discloses and claims a device wherein the first openings nearest to the muzzle, the first openings through which propellant gasses will be discharged, are generally elongated along a longitudinal axis. This assists to disperse the propellant gasses in such a way so as to prevent the reflection of gasses back toward the shooter.

11. The two elongated openings that are disclosed in the Cellini device are not positioned nearest to the first end of the device as compared to any other opening in the device. In as much as the Cellini device fails to teach all of the features of claim 1, it does not anticipate claim 1 or claims 2 and 3, which depend from claim 1.

12. Claim 2 of the present invention describes a muzzle brake that has all of the features of claim 1 with the additional limitation of the invention having a plurality of at least four elongated openings. Cellini does not disclose this feature. Cellini only discloses two elongated openings, which are positioned near the mid-section of the muzzle brake in back of a first set of non-elongated circular shaped apertures within the device. In as much as the Cellini device fails to teach all of the features of claim 2 and 3, the Cellini device does not anticipate these claims.

13. Claim 3 of the present invention is dependent upon claims 1 and 2. In as much as all of the features of claim 1 and 2 are not disclosed or shown in Cellini device, Cellini does not anticipate these claims.

14. Claims 1, 2, and 3 of the present invention are not anticipated by Mihaita.

15. The Examiner also rejected claims 1, 2, 3, and 13 as being anticipated by U.S. Patent No. 4,967,642 issued to Mihaita. The Examiner maintains that Mihaita discloses a muzzle brake comprising a cylindrical body having a central bore, at least one opening having a longitudinal dimension greater than a lateral dimension, and a plurality of gas holes linearly disposed along a longitudinal axis of the body.

16. While the Mihaita device may have these features, claim 1 of the present application specifically states that the placement of the elongated openings within the muzzle brake must be such that the elongated openings are located nearest to the first end of the device as compared to any other aperture. Mihaita does not teach or disclose this feature. The apertures closest to the first end of the device in the Mihaita invention are not elongated, but rather are generally circular in shape. Thus, the Mihaita invention does not disclose all of the features of the present invention and therefore does not anticipate the present invention.

17. The positioning of the elongated openings nearest to the first end of the muzzle brake as compared to any other aperture is an important functional feature of the present invention. This feature allows for facilitation of gas dispersion away from the device in such a manner that it reduces the impact of the gasses against the muzzle brake and the redirection of gasses back towards the person firing the firearm. This feature reduces the amount of noise perceived by the shooter.

18. The references cited by the Examiner do not have this feature and hence are perceived as being louder than the present invention. The design of the present invention, particularly the placement of the first elongated opening nearest to the first end of the muzzle brake as compared to any other aperture, allows for reduced noise to be perceived by a user and is a substantial advantage over the prior art embodiments cited by the Examiner.

19. The Cellini patent describes an elongated slot, presumably as a portion of the overall ornamental design, as a part of its muzzle brake. In the Cellini design, the openings that are closest to the first end of the muzzle brake are smaller round openings. These smaller openings will be the first openings through which the gas is dispersed. When the gas passes through these smaller holes, the gas will impinge upon the walls of these holes. The gas will then be reflected back towards the shooter and the shooter will perceive an increased amount of noise.

20. In the Mihaita device, the longitudinally elongated openings are likewise positioned away from the muzzle connecting portion of the muzzle brake behind a set of smaller holes that are positioned to aim the gasses back towards the shooter according to Figure 1A of the '642 patent. The structure that is described in this patent is significantly different from the structure described in the present application and the desired result is exactly opposite the desired result in the present application.

21. The present invention is a muzzle brake that is substantially quieter than these cited types of muzzle brakes. This reduction in noise perceived by the shooter is achieved by creating elongated first openings through which the escaping gasses can be dispersed. These longer openings provide for a longer escape path with a decreased amount of gas reflected back towards the shooter.

22. Neither the Cellini reference nor the Mihaita reference include this feature. Therefore, neither of these references anticipate the present invention.

### ***Claim Rejections - 35 USC §103***

23. The Examiner has rejected claims 9, 10, and 16 under §103(a) as being unpatentable (obvious) over either Cellini or Mihaita in view of Kleinguenther.
24. The Examiner maintains that combining either the Cellini or Mihaita devices with the intersecting multiple radial holes shown in the Kleinguenther patent to create longitudinal slots would have been obvious and would produce the present invention. Applicant respectfully disagrees.
25. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).” MPEP § 706.02(j).
26. There is no suggestion to combine these references to arrive at the combination that describes the present invention. While the Cellini and Mihaita devices do have generally elongated openings, the location of these elongated openings is different from the location of the elongated openings described in the present invention. This difference is crucial to the success of the Applicant’s invention, and makes the Applicant’s present invention patentably distinct

over these references.

27. The elongated openings in the Cellini and Mihaita devices are not located nearest to the first end of the muzzle brake. The apertures that are closest to the first end of the devices described in each of these patents are not elongated in a longitudinal direction, but rather are generally circular in shape and appearance. Likewise, the Kleinguenther device does not describe first openings that are longitudinally elongated. Therefore, the combination set forth by the Examiner does not include all of the claimed elements of the present invention and a prima facie case of obviousness has not been established.

28. There is no suggestion or motivation from these reference to combine them to achieve the results of the present invention. The placement in all of these cited references of the generally round holes that provide a shorter longitudinal profile to the present invention also require that gasses are reflected back towards the shooter. This is shown in Fig. 1A of the Mihaita patent. These references teach away from doing what the Applicant has done.

29. As described in the background section of the present application, prior art muzzle brakes reduce kickback by dissipating propellant gasses away from the muzzle end of a firearm. In devices such as those shown in the Cellini and Mihaita patents, gases are dispersed through openings having relatively small longitudinal dimensions that are located near the muzzle connection portion of the firearm. As gasses pass through these devices in the cited references, the moving gasses impinge upon a portion of the muzzle brake and are reflected back towards the shooter. This reflecting results in the amount of noise perceived by the shooter being much



greater and the gun sounding much louder with the muzzle brake attached than without the muzzle brake attached to the firearm.

30. In the present invention, longer first openings facilitate the passage of gasses away from the end of the muzzle and away from the location of the shooter. The longer openings provide a longer path for gasses to escape and decrease the amount of gas that impinge upon the body of the muzzle brake and is reflected back towards the shooter. This decrease in reflected gasses results in significantly less noise perceived by the shooter.

31. Neither Cellini, Mihaita nor Kleingunther describe or disclose the feature of longitudinally elongated slots of the invention being located nearest the first or muzzle connecting portion of the muzzle brake. In fact, all three of these inventions teach away from the present invention.

32. The Cellini patent describes an elongated slot, presumably as a portion of the overall ornamental design of the muzzle brake. In the Cellini design, the first openings through which gas would be dispersed are the smaller holes that are located nearer the first end of the muzzle brake. As described in the present application, these smaller holes would cause gas to impinge upon the surface of the muzzle brake and to be pushed back towards the shooter, resulting in an increase in noise perceived by the shooter. This result, and the structure which creates this result, are objects that the present invention seeks to overcome.

33. The elongated longitudinal slots of the present invention are designed to facilitate the passage of gasses away from the shooter, thus preventing an increase in the amount of noise perceived by the shooter. These elongated slots are not found and are specifically taught away from by the Cellini patent.

34. In the Mihaita device, the elongated openings are positioned away from the muzzle connecting portion of the muzzle brake behind a set of smaller holes that are positioned to aim the gasses back towards the shooter according to Figure 1A of the '642 patent. The structure that is described in this patent is significantly different from the structure described in the present application and the desired result is exactly opposite the result described in the present application. Thus, the embodiment that is found in the present invention is specifically taught away from by the Mihaita device.

35. The Kleinguenther device has openings that are laterally elongated rather than longitudinally elongated. This device teaches away from utilizing larger elongated holes to allow gasses to escape and instead utilizes a design that forwards gas to a nozzle portion that is intended to stabilize the bullet as it passes through the muzzle brake.

36. None of these devices teach or disclose the presence of elongated openings near the muzzle connecting portion of a muzzle brake. None of these devices teach reflecting gasses away from a shooter using elongated openings. In fact, these devices teach away from such a combination. The prior art teaches utilizing smaller holes to disperse gasses radially. The present invention teaches that elongated first openings allow for dispersion of gasses in a way

that prevents the reflection of the gasses back towards the shooter. This is not taught in the cited references.

37. Since the cited references teach against the combination of elements shown in the present invention, no reasonable expectation of success can exist. Therefore, the present invention cannot be merely an obvious modification of these cited references.

38. This combination of the cited references fails to disclose all of the limitations of the present invention. The claims include the limitation of the elongated openings being the opening closest to the first end of the muzzle brake as compared to any other aperture. This limitation is not found in any of these or in the combination of these references.

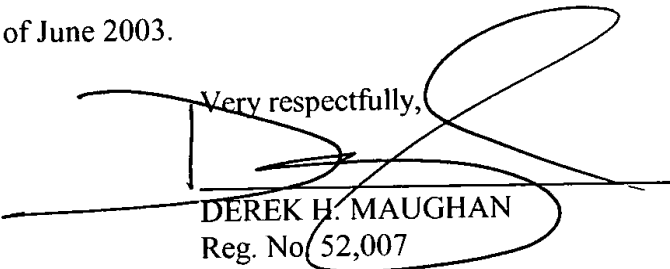
***Conclusion***

For the aforementioned reasons, Applicant hereby respectfully maintains that the present invention is not anticipated by or an obvious modification of the prior art and hereby respectfully requests that the Examiner remove his objections and allow this application as amended to proceed toward allowance.

If the Examiner feels it would advance the application to allowance or final rejection, the Examiner is invited to telephone the undersigned at the number given below.

DATED this 25<sup>th</sup> day of June 2003.

Very respectfully,

  
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I HEREBY CERTIFY that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

DATE: June 25, 2003

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